

Hydric Soils

Redwood County, Minnesota

[This report lists only those map unit components that are rated as hydric. Dashes (---) in any column indicate that the data were not included in the database. Definitions of hydric criteria codes are included at the end of the report]

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
27A:					
Dickinson fine sandy loam, 0 to 2 percent slopes	Dickinson	90	Outwash plains, Terraces	No	---
	Wadena	4	Outwash plains	No	---
	Hanska	3	Flats	Yes	2B3
	Linder	3	Moraines	No	---
27B:					
Dickinson fine sandy loam, 2 to 6 percent slopes	Dickinson	90	Outwash plains, Terraces	No	---
	Hanska	4	Flats	Yes	2B3
	Estherville	3	Outwash plains	No	---
	Linder	3	Moraines	No	---
31E:					
Storden loam, 18 to 25 percent slopes	Storden	85	Moraines	No	---
	Ves	8	Moraines	No	---
	Terril	7	Moraines	No	---
31F:					
Storden loam, 25 to 40 percent slopes	Storden	86	Moraines	No	---
	Terril	14	Moraines	No	---
39A:					
Wadena loam, 0 to 2 percent slopes	Wadena	90	Outwash plains, Terraces	No	---
	Dickman	4	Moraines	No	---
	Biscay	3	Flats	Yes	2B3
	Mayer	3	Flats	Yes	2B3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
39B:					
Wadena loam, 2 to 6 percent slopes	Wadena	90	Outwash plains, Terraces	No	---
	Biscay	5	Flats	Yes	2B3
	Mayer	5	Flats	Yes	2B3
41A:					
Estherville sandy loam, 0 to 2 percent slopes	Estherville	90	Outwash plains, Terraces	No	---
	Salida	5	Outwash plains	No	---
	Wadena	5	Outwash plains	No	---
41B:					
Estherville sandy loam, 2 to 6 percent slopes	Estherville	90	Outwash plains, Terraces	No	---
	Salida	5	Outwash plains	No	---
	Wadena	5	Outwash plains	No	---
42C:					
Salida gravelly sandy loam, 2 to 12 percent slopes	Salida	90	Outwash plains, Terraces	No	---
	Estherville	5	Outwash plains	No	---
	Wadena	5	Outwash plains	No	---
42E:					
Salida gravelly sandy loam, 12 to 35 percent slopes	Salida	90	Outwash plains, Terraces	No	---
	Estherville	5	Outwash plains	No	---
	Wadena	5	Outwash plains	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
86:					
Canisteo clay loam	Canisteo	85	Flats	Yes	2B3
	Webster	5	Swales	Yes	2B3
	Glencoe	4	Depressions	Yes	2B3, 3
	Okoboji	3	Depressions	Yes	2B3, 3
	Seaforth	3	Flats	No	---
94B:					
Terril loam, 2 to 6 percent slopes	Terril	85	Moraines	No	---
	Delft	10	Swales	Yes	2B3
	Normania	5	Flats	No	---
94C:					
Terril loam, 6 to 12 percent slopes	Terril	85	Moraines	No	---
	Delft	10	Swales	Yes	2B3
	Normania	5	Flats	No	---
128A:					
Grogan loam, 0 to 2 percent slopes	Grogan	85	Moraines	No	---
	Lemond	10	Flats	Yes	2B3
	Hanska	5	Flats	Yes	2B3
128B:					
Grogan loam, 2 to 6 percent slopes	Grogan	85	Moraines	No	---
	Linder	10	Moraines	No	---
	Hanska	5	Flats	Yes	2B3

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227: Lemond loam	Lemond	85	Flats	Yes	2B3
	Biscay	5	Flats	Yes	2B3
	Hanska	5	Flats	Yes	2B3
	Linder	5	Moraines	No	---
247: Linder loam	Linder	85	Moraines	No	---
	Estherville	5	Outwash plains	No	---
	Lemond	5	Flats	Yes	2B3
	Mayer	5	Flats	Yes	2B3
255: Mayer loam	Mayer	85	Flats	Yes	2B3
	Biscay	10	Flats	Yes	2B3
	Linder	5	Moraines	No	---
282: Hanska fine sandy loam	Hanska	85	Flats	Yes	2B3
	Linder	8	Moraines	No	---
	Lemond	7	Flats	Yes	2B3
313: Spillville loam, occasionally flooded	Spillville, occasionally flooded	85	Flood plains	No	---
	Delft	8	Swales	Yes	2B3
	Coland	7	Flood plains	Yes	2B3
317: Oshawa silty clay loam	Oshawa, frequently flooded	85	Flood plains	Yes	2B3, 4
	Zumbro	8	Flood plains	No	---
	Millington	7	Flood plains	Yes	2B3

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321: Tilfer clay loam	Tilfer, occasionally flooded	86	Benches, Flats	Yes	2B3
	Wadena Variant	14	Outwash plains	No	---
327A: Dickman sandy loam, 0 to 2 percent slopes	Dickman	90	Outwash plains, Terraces	No	---
	Biscay	4	Flats	Yes	2B3
	Hanska	3	Flats	Yes	2B3
	Linder	3	Moraines	No	---
327B: Dickman sandy loam, 2 to 6 percent slopes	Dickman	90	Outwash plains, Terraces	No	---
	Biscay	4	Flats	Yes	2B3
	Hanska	3	Flats	Yes	2B3
	Linder	3	Moraines	No	---
392: Biscay loam	Biscay	85	Flats	Yes	2B3
	Mayer	10	Flats	Yes	2B3
	Linder	5	Moraines	No	---
399: Biscay loam, depressional	Biscay, depressional	86	Depressions	Yes	2B3, 3
	Mayer	14	Flats	Yes	2B3
421B: Ves loam, 1 to 4 percent slopes	Ves	85	Moraines	No	---
	Seaforth	5	Flats	No	---
	Storden	5	Moraines	No	---
	Webster	5	Swales	Yes	2B3

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421B2: Ves loam, 3 to 6 percent slopes, eroded	Ves, eroded	85	Moraines	No	---
	Seaforth	5	Flats	No	---
	Storden	5	Moraines	No	---
	Webster	5	Swales	Yes	2B3
423: Seaforth loam	Seaforth	85	Moraines	No	---
	Ves	8	Moraines	No	---
	Storden	7	Moraines	No	---
562: Knoke silty clay loam	Knoke	86	Depressions	Yes	2B3, 3
	Canisteo	14	Flats	Yes	2B3
574: Du Page loam	Du Page, occasionally flooded	85	Flood plains	No	---
	Zumbro	8	Flood plains	No	---
	Millington	7	Flood plains	Yes	2B3
575: Nishna clay loam	Nishna, occasionally flooded	85	Flood plains	Yes	2B3
	Du Page	4	Flood plains	No	---
	Oshawa	4	Flood plains	Yes	2B3, 3
	Zumbro	4	Flood plains	No	---
	Millington	3	Flood plains	Yes	2B3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
654:					
Revere clay loam	Revere	85	Flats	Yes	2B3
	Okoboji	4	Depressions	Yes	2B3, 3
	Seaforth	4	Flats	No	---
	Webster	4	Swales	Yes	2B3
	Glencoe	3	Depressions	Yes	2B3, 3
818:					
Lemond-Linder-Estherville complex	Lemond	45	Beaches	Yes	2B3
	Estherville	25	Beaches	No	---
	Linder	25	Beaches	No	---
	Okoboji	3	Depressions	Yes	2B3, 3
	Knoke	2	Depressions	Yes	2B3, 3
884:					
Delft-Webster complex	Delft	50	Swales	Yes	2B3
	Webster	45	Swales	Yes	2B3
	Normania	2	Flats	No	---
	Terril	2	Moraines	No	---
	Canisteo	1	Flats	Yes	2B3

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954B2:					
Ves-Storden loams, 3 to 6 percent slopes, eroded	Ves, eroded	50	Moraines	No	---
	Storden, eroded	35	Moraines	No	---
	Delft	3	Swales	Yes	2B3
	Normania	3	Flats	No	---
	Seaforth	3	Flats	No	---
	Terril	3	Moraines	No	---
	Webster	3	Swales	Yes	2B3
954C2:					
Storden-Ves loams, 6 to 12 percent slopes, eroded	Storden, eroded	50	Moraines	No	---
	Ves, eroded	25	Moraines	No	---
	Terril	10	Moraines	No	---
	Delft	5	Swales	Yes	2B3
	Seaforth	5	Flats	No	---
	Webster	5	Swales	Yes	2B3
954D2:					
Storden-Ves loams, 12 to 18 percent slopes, eroded	Storden, eroded	60	Moraines	No	---
	Ves, eroded	20	Moraines	No	---
	Terril	10	Moraines	No	---
	Delft	5	Swales	Yes	2B3
	Seaforth	5	Flats	No	---

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992E:					
Rock outcrop-Copaston complex, 2 to 40 percent slopes	Rock outcrop	50	Terraces		---
	Copaston	35	Terraces	No	---
	Oshawa Variant	5	Flood plains	Yes	2B3, 3
	Tilfer	5	Flats	Yes	2B3
	Wadena Variant	5	Outwash plains	No	---
999B2:					
Ves-Estherville-Storden complex, 3 to 6 percent slopes, eroded	Estherville, eroded	30	Moraines	No	---
	Ves, eroded	30	Moraines	No	---
	Storden, eroded	20	Moraines	No	---
	Salida	10	Outwash plains	No	---
	Terril	10	Moraines	No	---
999C2:					
Storden-Estherville-Ves loams, 6 to 12 percent slopes, eroded	Estherville, eroded	30	Moraines	No	---
	Storden, eroded	30	Moraines	No	---
	Ves, eroded	20	Moraines	No	---
	Salida	10	Outwash plains	No	---
	Terril	10	Moraines	No	---
999D2:					
Storden-Estherville-Ves complex, 12 to 18 percent slopes, eroded	Estherville, eroded	30	Moraines	No	---
	Storden, eroded	30	Moraines	No	---
	Ves, eroded	15	Moraines	No	---
	Terril	14	Moraines	No	---
	Salida	11	Outwash plains	No	---

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1003B: Udorthents, (cut, and Fill land), 0 to 6 percent slopes	Udorthents, loamy (cut and fill land)	100	Moraines		---
1016: Udorthents, loamy	Udorthents, loamy	100	Moraines		---
1024A: Havelock clay loam, 0 to 2 percent slopes. occasionally flooded	Havelock, occasionally flooded	80	Flood plains	Yes	2B3
	Havelock, frequently flooded	10	Flood plains	Yes	2B3, 4
	Spillco, occasionally flooded	5	Flood plains	No	---
	Comfrey, occasionally flooded	3	Flood plains	Yes	2B3
	Calco, occasionally flooded	2	Flood plains	Yes	2B3
1029: Pits, gravel	Pits, gravel	100	Outwash plains, Terraces		---
1053: Aquolls, ponded	Aquolls, ponded	100	Depressions	Yes	2B3, 3
1056A: Spillville loam, 0 to 2 percent slopes. frequently flooded	Spillville, frequently flooded	85	Flood plains	No	---
	Coland, frequently flooded	5	Flats, Flood plains	Yes	2B3, 4
	Havelock, frequently flooded	4	Flood plains	Yes	2B3, 4
	Zumbro, frequently flooded	4	Flood plains	No	---
	Du Page, frequently flooded	2	Flats, Flood plains, Rises	Yes	4

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1833: Coland clay loam, occasionally flooded	Coland, occasionally flooded	85	Flood plains	Yes	2B3
	Millington	5	Flood plains	Yes	2B3
	Nishna	5	Flood plains	Yes	2B3
	Spillville	5	Flood plains	No	---
1834: Coland clay loam, frequently flooded	Coland, frequently flooded	85	Flood plains	Yes	2B3, 4
	Oshawa	8	Flood plains	Yes	2B3, 3
	Spillville	7	Flood plains	No	---
1850: Oshawa variant stony clay loam	Oshawa, variant	85	Flood plains	Yes	2B3, 3
	Blue Earth	8	Depressions	Yes	2B3, 3
	Millington	7	Flood plains	Yes	2B3
1851B: Blue Earth mucky clay loam, sloping	Blue Earth, sloping	85	Swales	Yes	2B3
	Oshawa Variant	8	Flood plains	Yes	2B3, 3
	Millington	7	Flood plains	Yes	2B3
1852F: Terril-Swanlake loams, 25 to 70 percent slopes	Terril	50	Moraines	No	---
	Swanlake	30	Moraines	No	---
	Delft	10	Swales	Yes	2B3
	Estherville	10	Outwash plains	No	---
1853A: Wadena variant loam, 0 to 2 percent slopes	Wadena, variant	90	Terraces	No	---
	Copaston	5	Terraces	No	---
	Tilfer	5	Flats	Yes	2B3

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1853B:					
Wadena variant loam, 2 to 6 percent slopes	Wadena, variant	90	Terraces	No	---
	Copaston	5	Terraces	No	---
	Tilfer	5	Flats	Yes	2B3
1897:					
Seaforth-Wilmonton clay loams	Seaforth	50	Moraines	No	---
	Wilmonton	30	Moraines	No	---
	Letri	10	Swales	Yes	2B3
	Okoboji	10	Depressions	Yes	2B3, 3
1899B:					
Wilmonton variant loam, 2 to 12 percent slopes	Wilmonton, variant	85	Moraines	No	---
	Delft	5	Swales	Yes	2B3
	Estherville	5	Outwash plains	No	---
	Terril	5	Moraines	No	---
1899E:					
Wilmonton variant sandy clay loam, 12 to 40 percent slopes	Wilmonton, variant	85	Moraines	No	---
	Dickman	5	Outwash plains	No	---
	Estherville	5	Outwash plains	No	---
	Terril	5	Moraines	No	---
GP:					
Pits, gravel-Udipsamments complex	Pits, gravel	80	Outwash plains, Stream terraces	Unranked	---
	Udipsamments	20	Outwash plains, Stream terraces	Unranked	---

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L83A: Webster clay loam, 0 to 2 percent slopes	Webster	65	Flats, Moraines, Swales	Yes	2B3
	Glencoe, depressional	14	Depressions, Moraines	Yes	2B3, 3
	Canisteo	8	Depressions, Flats, Moraines, Rims	Yes	2B3
	Nicollet	8	Flats, Moraines, Rises	No	---
	Poorly drained soil	5	Flats, Moraines, Swales	Yes	2B3
L84A: Glencoe clay loam, depressional, 0 to 1 percent slopes	Glencoe, depressional	80	Depressions, Moraines	Yes	2B3, 3
	Very poorly drained muck	10	Depressions, Moraines	Yes	2B3, 3
	Canisteo	5	Depressions, Flats, Moraines, Rims	Yes	2B3
	Harps	5	Depressions, Rims	Yes	2B3
L141A: Spillville loam, 0 to 2 percent slopes, occasionally flooded	Spillville, occasionally flooded	86	Flood plains	No	---
	Coland, occasionally flooded	8	Flood plains	Yes	2B3
	Hanlon, occasionally flooded	4	Flood plains	No	---
	Havelock, occasionally flooded	2	Flood plains	Yes	2B3
L142A: Jeffers clay loam, 0 to 2 percent slopes	Jeffers	85	Moraines	Yes	2B3
	Romnell, depressional	10	Moraines	Yes	2B3, 3
	Moines	2	Moraines	No	---
	Pell Creek	2	Moraines	Yes	2B3
	Revere, firm till substratum	1	Moraines	Yes	2B3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
L149A:					
Romnell clay loam, 0 to 3 percent slopes	Romnell	85	Moraines	Yes	2B3
	Soils that have more clay, depressional	5	Moraines	Yes	2B3, 3
	Pell Creek	4	Moraines	Yes	2B3
	Romnell, depressional	4	Moraines	Yes	2B3, 3
	Jeffers	2	Moraines	Yes	2B3
L163A:					
Okoboji silty clay loam, depressional, 0 to 1 percent slopes	Okoboji, depressional	92	Lake plains, Moraines	Yes	2B3, 3
	Canisteo	2	Depressions, Flats, Moraines, Rims	Yes	2B3
	Harpster	2	Lake plains	Yes	2B3
	Knoke, depressional	2	Lake plains	Yes	2B3, 3
	Prinsburg	2	Depressions, Flats, Lake plains, Moraines, Rims	Yes	2B3
L172D2:					
Storden, firm till-Annton complex, 12 to 18 percent slopes, moderately eroded	Storden, moderately eroded, firm till	45	Moraines	No	---
	Annton, moderately, eroded	40	Moraines	No	---
	Ridgeton	6	Moraines	No	---
	Coland, frequently flooded	5	Flood plains	Yes	2B3, 4
	Romnell	2	Moraines	Yes	2B3
	Terril, firm till substratum	2	Moraines	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
L173A:					
Moines clay loam, 1 to 3 percent slopes	Moines	85	Moraines	No	---
	Jeffers	8	Moraines	Yes	2B3
	Walnut Grove	5	Moraines	No	---
	Romnell, depressional	2	Moraines	Yes	2B3, 3
L198A:					
North Twin-Walnut grove complex, 0 to 2 percent slopes	North Twin	70	Moraines	No	---
	Walnut Grove	20	Moraines	No	---
	Pell Creek	9	Moraines	Yes	2B3
	Romnell, depressional	1	Moraines	Yes	2B3, 3
L198B:					
North Twin-Walnut grove complex, 1 to 4 percent slopes	North Twin	60	Moraines	No	---
	Walnut Grove	25	Moraines	No	---
	Pell Creek	10	Moraines	Yes	2B3
	Annton	5	Moraines	No	---
L201A:					
Normania loam, 0 to 3 percent slopes	Normania	85	Flats, Moraines, Rises	No	---
	Amiret	7	Hills, Moraines	No	---
	Seaforth	3	Flats, Moraines, Rises	No	---
	Webster	3	Flats, Moraines, Swales	Yes	2B3
	Canisteo	2	Depressions, Flats, Moraines, Rims	Yes	2B3

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L202A:					
Pell Creek-Romnell complex, 0 to 2 percent slopes	Pell Creek	55	Moraines	Yes	2B3
	Romnell	35	Moraines	Yes	2B3
	Romnell, depressional	4	Moraines	Yes	2B3, 3
	Jeffers	3	Moraines	Yes	2B3
	Walnut Grove	3	Moraines	No	---
L207E:					
Belview-Ridgeton complex, 18 to 25 percent slopes, firm till substratum	Belview, firm till substratum	75	Escarpments, Moraines	No	---
	Ridgeton, firm till substratum	15	Escarpments, Moraines	No	---
	Coland, frequently flooded	5	Flats, Flood plains	Yes	2B3, 4
	Terril, firm till substratum	5	Escarpments, Moraines	No	---
L207F:					
Belview-Ridgeton complex, 18 to 40 percent slopes, firm till substratum	Belview, firm till substratum	75	Moraines	No	---
	Ridgeton, firm till substratum	15	Moraines	No	---
	Coland, frequently flooded	5	Flood plains	Yes	2B3, 4
	Terril, firm till substratum	5	Moraines	No	---
L214A:					
Calco-Du Page complex, 0 to 2 percent slopes, frequently flooded	Calco, frequently flooded	50	Flats, Flood plains	Yes	2B3, 4
	Du Page, frequently flooded	44	Flats, Flood plains, Rises	Yes	4
	Oshawa, frequently flooded	3	Flood plains, Oxbows	Yes	2B3, 3, 4
	Spillville, occasionally flooded	2	Flats, Flood plains, Rises	No	---
	Minneopa, occasionally flooded	1	Flats, Flood plains, Rises	No	---

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L219A:					
Coland clay loam, 0 to 2 percent slopes, occasionally flooded	Coland, occasionally flooded	80	Flood plains	Yes	2B3
	Minneopa, occasionally flooded	8	Flood plains	No	---
	Havelock, occasionally flooded	5	Flood plains	Yes	2B3
	Shandep, occasionally flooded	5	Flood plains	Yes	2B3
	Spillville, occasionally flooded	2	Flood plains	No	---
L221A:					
Du Page loam, 0 to 2 percent slopes, occasionally flooded	Du Page, occasionally flooded	85	Flats, Flood plains, Rises	No	---
	Calco, occasionally flooded	5	Flats, Flood plains	Yes	2B3
	Havelock, occasionally flooded	3	Flood plains	Yes	2B3
	Nishna, occasionally flooded	3	Flats, Flood plains	Yes	2B3
	Minneopa, occasionally flooded	2	Flats, Flood plains, Rises	No	---
	Spillville, occasionally flooded	2	Flats, Flood plains, Rises	No	---
L224A:					
Coland clay loam, 0 to 2 percent slopes, frequently flooded	Coland, frequently flooded	85	Flood plains	Yes	2B3, 4
	Havelock, frequently flooded	6	Flood plains	Yes	2B3, 4
	Minneopa, occasionally flooded	5	Flood plains	No	---
	Shandep, frequently flooded	2	Flood plains	Yes	2B3, 4
	Spillville, occasionally flooded	2	Flood plains	No	---

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L225B:					
Annton-North Twin complex, 3 to 6 percent slopes	Annton	50	Moraines	No	---
	North Twin	30	Moraines	No	---
	Swanlake, firm till	10	Moraines	No	---
	Walnut Grove	8	Moraines	No	---
	Pell Creek	2	Moraines	Yes	2B3
L226C2:					
Annton-Storden, firm till complex, 6 to 12 percent slopes, moderately eroded	Annton, moderately eroded	45	Moraines	No	---
	Storden, moderately eroded, firm till	35	Moraines	No	---
	Annton	10	Moraines	No	---
	Terril, firm till substratum	7	Moraines	No	---
	Romnell	3	Moraines	Yes	2B3
L229A:					
Romnell silty clay loam, depressional, 0 to 1 percent slopes	Romnell, depressional	80	Moraines	Yes	2B3, 3
	Soils that have more clay, depressional	15	Moraines	Yes	2B3, 3
	Jeffers	2	Moraines	Yes	2B3
	Romnell	2	Moraines	Yes	2B3
	Pell Creek	1	Moraines	Yes	2B3
L241B:					
Dickinson fine sandy loam, firm till substratum, 1 to 6 percent slopes	Dickinson, firm till substratum	85	Moraines	No	---
	Lowlein, firm till substratum	12	Moraines	No	---
	Dickman	2	Moraines	No	---
	Walnut Grove	1	Moraines	No	---

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L242B:					
Terril loam, firm till substratum, 2 to 6 percent slopes	Terril, firm till substratum	90	Moraines	No	---
	Annton	5	Moraines	No	---
	Romnell	5	Moraines	Yes	2B3
L243A:					
Havelock-Zumbro complex, 0 to 3 percent slopes, frequently flooded	Havelock, frequently flooded	75	Flood plains	Yes	2B3, 4
	Zumbro, frequently flooded	18	Flood plains	No	---
	Oshawa, frequently flooded	5	Flood plains, Oxbows	Yes	2B3, 3, 4
	Havelock, occasionally flooded	2	Flood plains	Yes	2B3
L244A:					
Du Page-Zumbro complex, 0 to 3 percent slopes, occasionally flooded	Du Page, occasionally flooded	70	Flats, Flood plains, Rises	No	---
	Havelock, occasionally flooded	20	Flood plains	Yes	2B3
	Oshawa, frequently flooded	5	Flood plains, Oxbows	Yes	2B3, 3, 4
	Zumbro, occasionally flooded	5	Flood plains	No	---
L247A:					
Moines-Walnut grove complex, 1 to 3 percent slopes	Moines	55	Flats, Moraines, Rises	No	---
	Walnut grove	30	Flats, Moraines, Rises	No	---
	Pell creek	10	Drainageways, Flats, Swales	Yes	2B3
	Jeffers	5	Depressions, Flats, Moraines, Rims	Yes	2B3

Hydric Soils

Redwood County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
L248B:					
Annton-Swanlake, firm till complex, 3 to 6 percent slopes	Annton	55	Moraines	No	---
	Swanlake, firm till	35	Moraines	No	---
	Walnut Grove	5	Moraines	No	---
	Moines	2	Moraines	No	---
	Storden, moderately eroded, firm till substratum	2	Moraines	No	---
	Pell Creek	1	Moraines	Yes	2B3
L250A:					
Lowlein loam, firm till, 1 to 3 percent slopes	Lowlein, firm till	85	Moraines, Stream terraces	No	---
	Walnut grove	10	Flats, Moraines, Rises	No	---
	Pell creek	5	Drainageways, Flats, Swales	Yes	2B3
L252A:					
Mayer clay loam, firm till substratum, 0 to 2 percent slopes	Mayer, firm till substratum	90	Flats, Moraines	Yes	2B3
	Jeffers	5	Depressions, Flats, Moraines, Rims	Yes	2B3
	Pell creek	3	Drainageways, Flats, Swales	Yes	2B3
	Mayer	2	Flats, Moraines	Yes	2B3
L253B:					
Dickinson fine sandy loam, terrace, 1 to 6 percent slopes	Dickinson, terrace	85	Outwash plains, Terraces	No	---
	Estherville	5	Hills, Hills, Outwash plains, Stream terraces	No	---
	Linder	5	Moraines	No	---
	Minneopa, sandy substratum	3	Flats, Outwash plains	No	---
	Hanska	2	Flats	Yes	2B3

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
M-W: Water, miscellaneous	Water, miscellaneous	100	---		---
W: Water	Water	100	---		---

Hydric Soils

This table lists the map unit components that are rated as hydric soils in the survey area. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 2002).

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2003) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and others, 2002).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The criteria for hydric soils are represented by codes in the table (for example, 2B3). Definitions for the codes are as follows:

1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
 - A. are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or
 - B. are poorly drained or very poorly drained and have either:
 - 1) a water table at the surface (0.0 feet) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or
 - 2) a water table at a depth of 0.5 foot or less during the growing season if permeability is equal to or greater than 6.0 in/hr in all layers within a depth of 20 inches, or
 - 3) a water table at a depth of 1.0 foot or less during the growing season if permeability is less than 6.0 in/hr in any layer within a depth of 20 inches.
3. Soils that are frequently ponded for long or very long duration during the growing season.
4. Soils that are frequently flooded for long or very long duration during the growing season.

References:

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